

Teach Yourself to Fish

What You Will Learn

- How to navigate man pages.
- How the `$PATH` environment variable is used.
- What the `which` command does.
- How to ask commands for help.
- How to search man pages.

Navigating Man Pages

Enter	Move down one line.
Space	Move down one page.
g	Move to the top of the page.
G	Move to the bottom of the page.
q	Quit.

Environmental Variables

- Storage location that has a name and a value
- Typically uppercase
- Access the contents by executing:
 - `echo $VAR_NAME`

PATH

- An environment variable
- Controls the command search path
- Contains a list of directories

jason@linuxsvr:~

```
[jason@linuxsvr ~]$ echo $PATH  
/usr/local/bin:/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/sbin:/home/jason/bin  
[jason@linuxsvr ~]$
```

```
[jason@linuxsvr ~]$ echo $PATH
/usr/local/bin:/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/sbin:/home/jason/bin
[jason@linuxsvr ~]$ whatsupdoc
-bash: whatsupdoc: command not found
[jason@linuxsvr ~]$ █
```

Which Command Exactly?

`which` Locate a command


```
[jason@linuxsvr ~]$ echo $PATH
/usr/local/bin:/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/sbin:/home/jason/bin
[jason@linuxsvr ~]$ whatsupdoc
-bash: whatsupdoc: command not found
[jason@linuxsvr ~]$ which cat
/bin/cat
[jason@linuxsvr ~]$
```

```
[jason@linuxsvr ~]$ echo $PATH
/usr/local/bin:/bin:/usr/bin:/usr/local/sbin:/usr/sbin:/sbin:/home/jason/bin
[jason@linuxsvr ~]$ whatsupdoc
-bash: whatsupdoc: command not found
[jason@linuxsvr ~]$ which cat
/bin/cat
[jason@linuxsvr ~]$ which tac
/usr/bin/tac
[jason@linuxsvr ~]$ █
```

Starting to Fish

- Look at the directories in `$PATH`.
- Look at the files in each directory.
- Use `man` to learn what the command does.

```
[jason@linuxsvr ~]$ ls /bin
alsaunmute      dmesg           iptables-xml-1.4.7  ping            tar
arch            dnsdomainname  kbd_mode            ping6           taskset
awk            domainname     kill                plymouth        tcsh
basename       dumpkeys       link                ps              touch
bash          echo           ln                 pwd             tracepath
cat           ed             loadkeys           raw             tracepath6
chgrp         egrep          logger            readlink        traceroute
chmod         env            login             red             traceroute6
chown        ex            ls                rm              true
cp           false         lsblk             rmdir           unlockmgr_server
cpio        fgrep         mail              rpm             umount
csh         find          mailx             rvi             uname
cut         findmnt       mkdir            rview           unicode_start
dash        fusermount   mknod            sed             unicode_stop
date        gawk         mktemp           setfont         unlink
dbus-cleanup-sockets  grep         more            setserial      usleep
dbus-daemon  gtar         mount            sh              vi
dbus-monitor gunzip       mountpoint      sleep           view
dbus-send   gzip         mv              sort            ypdomainname
dbus-uuidgen hostname     netstat         stty            zcat
dd          ipcalc       nice            su
df          iptables-xml nisdomainname   sync
```

[jason@linuxsvr ~]\$ █

CAT(1)

User Commands

CAT(1)

NAME

cat - concatenate files and print on the standard output

SYNOPSIS

cat [OPTION...]... [FILE]...

DESCRIPTION

Concatenate FILE(s), or standard input, to standard output.

-A, --show-all

equivalent to **-vET**

-b, --number-nonblank

number nonempty output lines

-e equivalent to **-vE**

-E, --show-ends

display \$ at end of each line

-n, --number

: █

Get Help with `--help` or `-h`

- Add `--help` to a command to get help.
- Try `-h` if `--help` doesn't work.


```
[jason@linuxsvr ~]$ ls --help
```

```
Usage: ls [OPTION]... [FILE]...
```

```
List information about the FILES (the current directory by default).
```

```
Sort entries alphabetically if none of -cftuvSUX nor --sort.
```

```
Mandatory arguments to long options are mandatory for short options too.
```

-a, --all	do not ignore entries starting with .
-A, --almost-all	do not list implied . and ..
--author	with -l, print the author of each file
-b, --escape	print octal escapes for nongraphic characters
--block-size=SIZE	use SIZE-byte blocks. See SIZE format below
-B, --ignore-backups	do not list implied entries ending with ~
-c	with -lt: sort by, and show, ctime (time of last modification of file status information) with -l: show ctime and sort by name otherwise: sort by ctime
-C	list entries by columns
--color[=WHEN]	colorize the output. WHEN defaults to `always' or can be `never' or `auto'. More info below
-d, --directory	list directory entries instead of contents, and do not dereference symbolic links
-D, --dired	generate output designed for Emacs' dired mode
-f	do not sort, enable -aU, disable -ls --color

```
...
```

```
[jason@linuxsvr ~]$ gzip -h
Usage: gzip [OPTION]... [FILE]...
Compress or uncompress FILEs (by default, compress FILEs in-place).
```

Mandatory arguments to long options are mandatory for short options too.

-c, --stdout	write on standard output, keep original files unchanged
-d, --decompress	decompress
-f, --force	force overwrite of output file and compress links
-h, --help	give this help
-l, --list	list compressed file contents
-L, --license	display software license
-n, --no-name	do not save or restore the original name and time stamp
-N, --name	save or restore the original name and time stamp
-q, --quiet	suppress all warnings
-r, --recursive	operate recursively on directories
-S, --suffix=SUF	use suffix SUF on compressed files
-t, --test	test compressed file integrity
-v, --verbose	verbose mode
-V, --version	display version number
-1, --fast	compress faster
-9, --best	compress better

```
[jason@linuxsvr ~]$
```


Searching Man Pages

```
man -k SEARCH_TERM
```

```
jason@linuxsvr:~  
[jason@linuxsvr ~]$ man -k calendar  
cal          (1) - displays a calendar  
difftime     (3p) - compute the difference between two calendar time values  
[jason@linuxsvr ~]$
```

Summary

- Man is used to display documentation.
- `$PATH` controls your search path.
- Learn the full path to commands with `which`.
- Ask commands for help with `--help` or `-h`.
- Search man pages by using `man -k`.

Next Steps

- Examine your `$PATH` environment variable
- Perform an `ls` on each directory in your `$PATH`.
- Pick a few commands that look interesting.
- Use `man` to learn what the command does.
- Try using `--help` and `-h` on a few commands.